

Amendments to the Claims:

1. (Currently Amended) A data access apparatus comprising:
an external memory unit configured to store data, wherein the external memory unit has a second time cycle for performing a task; and
a control unit coupled with the external memory unit via a memory bus, said control unit including:
a microprocessor unit, having a first time cycle, configured to perform a microprocessor operation; and
a memory interface control unit configured to correspondingly transform an internal data access address of an internal memory unit to a data address of the external memory unit, thereby enabling the microprocessor unit issuing the internal data access address to access data from the external memory unit via the memory interface control unit;

wherein

the internal memory unit is accessible only by the microprocessor unit;

the external memory unit includes a data segment configured to store flow control parameters and numerical arithmetic of the microprocessor unit that were originally stored in the internal memory unit, wherein a storage capacity of the data segment included in the external memory unit is substantially—at least approximately equal to a storage capacity of the internal memory unit, and

~~when~~ if the microprocessor unit attempts to access the data segment storing flow control parameters and numerical arithmetic from the external memory unit, an access request signal issued from the control unit associated with the microprocessor unit against another device accessing the external memory unit is directed to the external memory unit, and the first time cycle is suspended until an acknowledge signal indicating that ~~of the~~

microprocessor unit may access the data segment of the external memory unit is received.

2. (Previously Presented) The data access apparatus according to claim 1, wherein the first time cycle is longer than the second time cycle.

3. (Previously Presented) The data access apparatus according to claim 1, wherein the first time cycle is revived from suspending when the second time cycle is finished.

4. (Previously Presented) The data access apparatus according to claim 3, wherein the duration suspending the first time cycle is a time when the external memory unit finishes a current task.

5. (Original) The data access apparatus according to claim 1, wherein the external memory unit is a dynamic random access memory (DRAM).

6. (Original) The data access apparatus according to claim 1, wherein a capacity of the data segment of the external memory unit is smaller than a capacity of the external memory unit.

7. (Original) The data access apparatus according to claim 1, wherein the data access apparatus could be applied to an optical-electronic system and which is selected from: a CD-ROM, CD-RW, DVD+/-ROM, DVD+/-RW.

8. (Currently Amended) A control unit for accessing data from an external memory unit, having a second time cycle, via a memory bus in an optical-electronic system, the control unit comprising:

a microprocessor unit, having a first time cycle, configured to perform a microprocessor operation; and

a memory interface control unit configured to correspondingly transform an internal data access address of an internal memory unit to a data address of the external memory unit, thereby enabling the microprocessor unit issuing the internal data access address to access data from the external memory unit via the memory interface control unit, wherein a capacity of the external memory unit is at least approximately equal to a capacity of the internal memory unit;

wherein

the internal memory unit is accessible by the microprocessor unit;

when the microprocessor unit attempts to access data from the external memory unit via the memory interface, the control unit is operable to send an access request signal to the external memory unit,

the external memory unit includes a data segment configured to store flow control parameters and numerical arithmetic of the microprocessor unit that were originally stored in the internal memory unit, and

~~when~~ if the microprocessor unit attempts to access the data segment storing flow control parameters and numerical arithmetic from the external memory unit, the access request signal issued from the control unit associated with the microprocessor unit against another device accessing the external memory unit is directed to the external memory unit, and the first time cycle is suspended until an acknowledge signal indicating that the microprocessor unit may access the data segment of the external memory unit is received.

9. (Previously Presented) The control unit of data access according to claim 8, wherein the first time cycle is longer than the second time cycle.

10. (Previously Presented) The control unit of data access according to claim 8, wherein the first time cycle is revived from suspending when the second time cycle is finished.

11. (Previously Presented) The control unit of data access according to claim 10, wherein the duration between the first time cycle suspended and revived is a time when the external memory unit finishes a current task.

12. (Original) The control unit of data access according to claim 8, wherein the external memory unit is a DRAM.

13. (Original) The control unit of data access according to claim 8, wherein a capacity of the data segment of the external memory unit is smaller than a capacity of the external memory unit.

14. (Original) The control unit of data access according to claim 8, wherein the optical-electronic is selected from: a CD-ROM, a CD-RW, a DVD+/-ROM, and DVD+/-RW.

15. (Currently Amended) A data access method used in a control unit for accessing data in an external memory unit, said method comprising:

correspondingly transforming an internal data access address of an internal memory unit to a data address of the external memory unit, thereby enabling a microprocessor unit issuing the internal data access address to access data from the external memory unit, wherein the internal memory unit is accessible only by the microprocessor unit;

suspending a first time clock used by the microprocessor of the control unit ~~when~~
if the microprocessor sends an access request signal for accessing a data
segment included in the external memory unit, wherein the data segment
stores flow control parameters and numerical arithmetic of the
microprocessor unit that were originally stored in the internal memory unit,
further wherein a storage capacity of the data segment is ~~substantially at~~
least approximately equal to a storage capacity of the internal memory
unit, and wherein the access request signal issued from the control unit
associated with the microprocessor unit against another device accessing
the external memory unit is directed to the external memory unit; and
reviving the first time clock when an acknowledge signal indicating that the
microprocessor unit may access the data segment of the external memory
unit is received.

16. (Previously Presented) The data access method according to claim 15,
wherein the external memory unit has a second time cycle which is a time for accessing
data stored in the external memory unit.

17. (Previously Presented) The data access method according to claim 16,
wherein the first time cycle is longer than the second time cycle.

18. (Previously Presented) The data access method according to claim 16,
wherein duration of the first time cycle between being suspended and being revived is a
time of the second time cycle being finished.

19. (Previously Presented) The data access method according to claim 15,
further comprising the external memory unit performs a current task when suspending
the first time cycle, and after finishing the current task, reviving the first time cycle
immediately.

20. (Original) The data access method according to claim 15, wherein the method could be applied to an optical-electronic system which is selected from: a CD-ROM, a CD-RW, a DVD+/-ROM, and a DVD+/-RW.